

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A sensing device for: sensing coded data disposed on a surface; and generating interaction data based on the sensed coded data, the interaction data being indicative of interaction of the sensing device with the surface; the sensing device comprising:

- (a) an image sensor for capturing image information;
- (b) at least one analog to digital converter for converting the captured image information into image data;
- (c) an image processor for processing the image data to generate processed image data;
- (d) a host processor for generating the interaction data based at least partially on the processed image data;

(e) a first framestore for storing frames of the image data; and

(f) a second framestore, the sensing device being configured such that the first and second framestores respectively store alternate frames of the image data associated with alternate frames of image information sensed by the image sensor.

2-4. (Canceled)

5. (Currently Amended) A sensing device according to ~~claim 4~~claim 1, wherein the image sensor and the at least one analog to digital converter are integrated on a monolithic integrated circuit.

6. (Original) A sensing device according to claim 5, wherein the first framestore is integrated onto the monolithic integrated circuit.

7. (Currently Amended) A sensing device according to ~~claim 4~~claim 1, wherein the image processor includes subsampling means for subsampling the image data to generate subsampled image data.

8. (Original) A sensing device according to claim 7, wherein the image processor is integrated on a monolithic integrated circuit, the monolithic integrated circuit including a

first subsampled framestore for storing the subsampled image data based on image data from the first framestore.

9. (Canceled)

10. (Currently Amended) A sensing device according to ~~claim 9~~claim 1, wherein the first and second framestores are integrated on a monolithic integrated circuit.

11. (Currently Amended) A sensing device according to ~~claim 9~~claim 1, further including a second subsampled framestore for storing subsampled image data based on image data from the second framestore.

12. (Original) A sensing device according to claim 11, wherein the first and second framestores and the first and second subsampled framestores are integrated on a monolithic integrated circuit.

13. (Original) A sensing device according to claim 7, wherein the image processor includes a low-pass filter for low-pass filtering the image data prior to subsampling it.

14. (Original) A sensing device according to claim 7, wherein the image processor includes range expansion means for range expanding the subsampled image data.

15. (Original) A sensing device according to claim 13, wherein the image processor includes range expansion means for range expanding the subsampled image data.

16-130. (Canceled)